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**U.S. ARMY CENTER FOR HEALTH  
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<b>Perspective</b>	<b>1</b>
BG Daniel F. Perugini	
<b>From the Commander, U.S. Army Center for Health Promotion and Preventive Medicine</b>	<b>3</b>
BG William T. Bester	
<b>Readiness Through Health – USACHPPM History 1942-2003</b>	<b>5</b>
<b>Health Information Operations: Improving What the AMEDD Communicates</b>	<b>6</b>
Kevin M. Delaney, et al	
<b>USACHPPM Toxicology: Maintaining Readiness and Protecting the Environment</b>	<b>10</b>
Wilfred C. McCain, PhD, et al	
<b>Longitudinal Health Risk Assessment Program</b>	<b>15</b>
MAJ Michael R. Bell, MC, USA, et al	
<b>Making Better Decisions: Using GIS at USACHPPM</b>	<b>21</b>
Jason S. Edmondson, et al	
<b>The U.S. Army's HHA Program: Past, Present, and Future</b>	<b>28</b>
MAJ Timothy A. Kluchinsky, Jr, MS, USA, et al	
<b>Dietary Supplement Use in the Military: Do Army Health Care Providers Know Enough?</b>	<b>36</b>
MAJ Sonya J.C. Corum, SP, USA	
<b>Assessing and Communicating Deployment Radiation Risks in Iraq</b>	<b>39</b>
LTC Mark A. Melanson, MS, USA, et al	
<b>Protecting Military Forces From Unhealthy Levels of Noise During Deployment</b>	<b>44</b>
George A. Luz, PhD, et al	
<b>Addressing Risk Communication Challenges with the Smallpox Vaccine</b>	<b>49</b>
Roxanne D. Smith	
<b>Force Health Protection and Military Drinking Water Supplies</b>	<b>55</b>
W.D. Burrows, PhD, et al	
<b>Deployment Exposure Assessment and the Role of Biomonitoring</b>	<b>60</b>
Coleen Baird Weese, MD	



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# Addressing Risk Communication Challenges with the Smallpox Vaccine

Roxanne D. Smith†

## Introduction

In late 2002, the Health Risk Communication Program (HRCP) at the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) began working with the Military Vaccine (MILVAX) Agency to develop a risk communication strategy for effectively implementing the military Smallpox Vaccination Program. The MILVAX Agency was interested in being proactive in its outreach and education on the smallpox vaccine based on lessons learned from the anthrax vaccination effort in 1998 and 1999.

The first step in developing the strategy was to conduct a series of focus groups to gain a better understanding of issues and concerns that might prove to be barriers to the success of the program, and to identify those areas where the MILVAX Agency could further improve communication and education efforts. The focus group tool is typically designed to elicit information in a forum that provides for candid, nonattributable discussion among participants without responding to issues or questions raised. Typically, senior management does not attend, so that responses are more likely to be representative of actual interests and concerns. In order to use this opportunity to practice effective risk communication, the HRCP, along with the Air Force Institute for Operational Health (AFIOH) and the Navy Environmental Health Center (NEHC), agreed to a three-tiered approach:

- The HRCP would conduct a standard focus group session with a facilitator asking a series of questions to encourage discussion among the participants and recording their interests and concerns, but not addressing questions during the focus group session that might come up about the topic; participant responses would be recorded, while participant identities would remain anonymous.

- To ensure that participants received accurate information in response to their questions and to encourage two-way communication, the focus groups would be followed by an open question-and-answer (Q&A) session with a subject matter expert (SME). (In most cases, questions were recorded on flip charts as participants were speaking during the focus group session so the SME could go down the list during the Q&A session.)

- The HRCP would provide risk communication training for those health care providers working with service members receiving the vaccine. (One installation requested the risk communication training.)

The HRCP conducted 14 focus groups from Jan through Mar 03 with 143 service members, their families, and medical staff from all services (Army, Air Force, Navy, Marines). Most participants had not received the smallpox vaccine at the time of the focus groups. The goals of the focus group effort were to learn: (1) how participants felt about the smallpox vaccine; (2) what service members and their families knew about the vaccine; (3) where participants received their information about the vaccine; and (4) what sources of information service members and their families trusted.

## Focus Groups

The MILVAX Agency approved the focus group effort in Dec 02. The HRCP began working with other services to arrange the focus groups, specifically with COL Kenneth Cox of AFIOH and CAPT Paul Gillooly of NEHC. These contacts worked with others in their respective services to arrange the focus groups. Table 1, on the following page, summarizes information about the dates, location, and participants in the focus groups.

Due to time and workload constraints, particularly with service members preparing for deployment, some locations did not have full participation. Unfortunately, the services were not able to arrange focus groups with National Guard and Reserve units to hear their perspectives on the Smallpox Vaccination Program.

The questions asked during the focus groups were designed to elicit from the participants their thoughts, opinions, and beliefs about the smallpox vaccine to determine: (1) whether service members were comfortable receiving the vaccine; (2) whether service members had any concerns about the vaccine; (3) what their families thought; and (4) whether health care staff had sufficient information to answer patient concerns.

The MILVAX Agency also wanted to hear: (1) what type of information about the vaccine participants wanted; (2) how



Location and Dates of Focus Group Sessions	Specific Focus Groups	Number of Participants
Wilford Hall Medical Center, Lackland AFB, TX 7 Jan 03	Air Force health care providers	15
Kirk Army Health Clinic, Aberdeen Proving Ground, MD 15 Jan 03	Army health care providers	14
Madigan Army Medical Center, Fort Lewis, WA 11 Feb 03	- Army health care providers - Soldiers - Family members	4 27 3
Naval Amphibious Base Little Creek Virginia Beach, VA 25 Mar 03	Family members and health care providers	13
Naval Medical Center, Portsmouth, VA 26 Mar 03	Immunization clinic staff, other health care providers, and Navy personnel from the Regional Support Group	10
Naval Weapons Station Yorktown, VA 26 Mar 03	Marine Corps Unit	11
Norfolk Naval Base, Norfolk, VA 27 Mar 03	Naval aviators	12
Naval Amphibious Base Little Creek Virginia Beach, VA 27 Mar 03	Navy special operations unit	3
Naval Amphibious Base Little Creek Virginia Beach, VA 27 Mar 03	- Navy shipboard personnel and explosive ordnance disposal divers - Navy shipboard personnel	7 5
Naval Medical Center, Portsmouth, VA 28 Mar 03	Navy and civilian health care providers	13
Naval Medical Center, Portsmouth, VA 28 Mar 03	Navy and civilian health care providers	6

*Table 1. Details on Focus Groups Conducted*

they wanted to receive the information; (3) who they trusted to give them the information; (4) whether participants wanted interactive briefings or written materials such as fact sheets and brochures, or a combination of these methods; (5) where the participants went for information; (6) whether the participants trusted the Department of Defense (DOD) or other Government agencies to give them information about the vaccine; and (7) whether a trifold brochure developed for the Smallpox Vaccination Program met the participants' information needs.

Table 2, on the following page, shows the list of questions that were developed for the focus groups. Not all questions were asked of every focus group.

## Findings and Observations

### *General.*

- Those scheduled to receive the vaccine had significantly more information than those who were not yet scheduled. In some cases, the focus group and the Q&A session

served as a briefing for the service members and their families.

- Many participants were confused about the differences between smallpox disease and the smallpox vaccine. During the Q&A sessions, the SMEs had to repeatedly clarify whether they were speaking about the vaccine and vaccinia, or smallpox disease.

- A number of participants wondered whether there are different strains or mutations of smallpox and if the vaccine still would be protective.

- Participants had concerns about the "old" vaccine versus the "new" vaccine. They wanted to know whether the vaccine used in the 1950s and 1960s was the same as the one being used now. One service member said, "What about the new vaccine that's about to come out? Why don't we wait for that one?"

- Participants wanted to know for how long the vaccine is effective. One service member asked whether he had residual immunity from his mother, who received the vaccine 1 year before he was born.

Service Members and Family Questions	Health Care Providers Questions
What have you heard about the smallpox vaccine? What do you know about it?	Do you have concerns about the smallpox vaccine?
How likely do you think you are to be exposed to smallpox if you are deployed? How concerned are you about being exposed to smallpox if deployed?	What kinds of concerns have you heard from patients about the smallpox vaccine?
How likely do you think you are to be exposed to smallpox if you remain in the U.S.? How concerned are you about being exposed to smallpox if in the U.S.?	What do you think are the widely held perceptions that you believe are misconceptions about the smallpox vaccine? What is the basis for each perception? Is there some truth to it? How has the perception, whether valid or not, affected you in your work, or how will it affect your work?
What information sources do you rely on for information about the smallpox vaccination program? Military sources? Civilian sources?	What key information about the smallpox vaccine needs to be communicated to all personnel? To families?
What kinds of concerns do you have about the smallpox vaccine? For yourself? For your family? If you get the vaccine? If you don't get the vaccine? If your family gets the vaccine? If your family doesn't get the vaccine?	From whom would you like to get that information?
Who would you trust for information about the smallpox vaccine (and its impacts)?	What has been done to encourage understanding about the smallpox vaccine? How successful were these efforts? What more could be done?
Where do you go to raise concerns about health issues? Where else? Where do you wish you could go? Where does your family go for information? Where would you like your family to be able to get information?	Do you feel you have the information you need about how the smallpox vaccination program will work and impacts of the vaccine?
What priority has DOD placed on the smallpox vaccination program? On what do you base this assessment?	How prepared are military health care providers to communicate information about the smallpox vaccine and its impacts?
When is the best time to inform service personnel about the need to receive a smallpox vaccine?	Are you comfortable administering the smallpox vaccine?
What key information about the smallpox vaccine needs to be communicated to all personnel? To families?	What opportunities do you have for providing information about the smallpox vaccine to service members?
N/A	What challenges do the Armed Services face in communicating about the smallpox vaccination program? What needs to be improved for communicating information about the program?
N/A	What is the best way to communicate the need for and impacts of the smallpox vaccine to service members? To family members?
N/A	What lessons learned are you aware of from your experience related to vaccination issues/programs? From ongoing studies related to vaccination programs?

*Table 2. Focus Group Questions*

- In nearly every focus group, participants were concerned about whether there were risks to others with whom they may come into contact after being vaccinated: children, spouses, pregnant women, the elderly, other vulnerable individuals, and pets.

- A number of participants were concerned about the deaths of two civilian health care workers with heart disease

who had received the smallpox vaccine.<sup>1</sup> In a focus group that was conducted immediately following the announcement of the deaths, there was lively discussion about the merits of postponing additional vaccinations until more information was available on the possible link to the vaccine.

- Participants had questions about the potential risks of combining laundry and sharing bathroom facilities with those

who had recently been vaccinated. One service member asked, “Should I wash the faucet handle after using it?”

#### *Service Members.*

- Some service members raised concerns about whether smallpox could penetrate protective gear, be spread through the water supply, or be spread by pets.

- Service members wanted to know the ratio of the number of service members who have had adverse effects from the vaccine to the total number who have been vaccinated.

- A number of service members were confused about whether they would be required to lodge away from their families after being vaccinated. They were especially concerned about spending time away from their families immediately before deployment; they suggested vaccinations be given after deployment.

- Service members were concerned about the safety of the vaccine. One service member said, “I had the vaccine when I was young. There wasn’t any hype, it was like a flu shot; my arm swelled. But, I’m worried about long-term effects (of the smallpox vaccine), like (the) anthrax (vaccine).” In several focus groups, service members raised questions about working out while the vaccination was in the process of healing because the local gyms had posted signs saying that those recently vaccinated could not use the gyms until medically cleared.

- Several service members were concerned about whether they could sleep with their spouses after being vaccinated.

#### *Health Care Providers.*

- Health care providers at all levels and in all areas were receiving a significant number of questions about smallpox and the vaccination program. Those who administered the smallpox vaccine were knowledgeable about the vaccine and smallpox disease. In some locations, all providers had been fully briefed and were able to respond to questions from patients. Other providers had limited knowledge of the vaccine and disease; felt ill equipped to answer patients’ questions; and, in some cases, had some of the same misconceptions about the vaccine as their patients.

- Contract health care workers who were being asked to voluntarily take the vaccine to serve as first responders raised the issue of time off from work if they had an adverse reaction to the vaccination. Would the contract employee have to use accrued annual leave and/or sick leave, or would the military pay the contract employee for the time off? Would worker time off cause staffing problems for the hospital?

- Health care providers reported that constant repetition of key information was a crucial part of the pre-vaccination screening process. They provided examples of service members who had heard the briefing, completed the screening questionnaire, spoken with a provider to review the information on the questionnaire, and still revealed for the first time that they had a possible contraindication just as they were about to be vaccinated. In some cases, providers felt that the individual service member might not have wanted to appear “weak,” so did not share relevant information until the last minute.

- One health care provider raised concerns about National Guard and Reserve units. He indicated that active duty service members had time to “warm up” to the idea of the vaccination. However, if the service member was in the Reserves, that individual had little to no mental preparation time.

- At one location, health care providers noted that service members would receive the pre-vaccination briefing and then the providers would informally “quiz” them before administering the vaccine. If the service member was confused or misunderstood key points, then the provider would brief the service member again. At another location, a provider said that there were pictures of smallpox disease posted where the vaccinations were administered. He said no one raised questions about receiving the vaccine after seeing the pictures.

#### *Family Members.*

- Service members do not necessarily share information with family members. One service member said that his family “will look elsewhere (for information) because I won’t tell them exactly what’s going on – I don’t want to scare them.”

- Family members prefer to get information directly and through a variety of sources, and emphasized that more than one method of communication should be used for outreach purposes. Family members suggested receiving information through electronic mail, family resource groups, family service centers, command spouse ombudsmen, installation newsletters, TRICARE publications, newspapers, flyers in high-traffic areas, and health care providers.

- Family members requested that they be included in the pre-vaccination briefing of the service member so that the entire family unit gets the same information at the same time. One spouse summarized this reasoning with: “Not all families communicate well.”

*Perceptions of Threat.* In asking focus group participants whether they felt smallpox was a threat, some health care staff reported that service members did not seem overly concerned

about the threat of exposure to smallpox and, therefore, did not really understand the need for the vaccination. Some service members felt there were greater threats than smallpox. In other cases, health care providers noted that service members asked whether their children and spouses could receive the vaccine.

In general, most focus group participants felt the threat of smallpox was greater outside the continental United States (OCONUS) than in the continental United States (CONUS). However, some service members who were in Special Operations felt the threat of smallpox was greater CONUS than OCONUS because troops would be better equipped during deployment to address the issue. Some participants wondered whether the threat of smallpox was greater than it had been previously because of Operation Enduring Freedom and Operation Iraqi Freedom.

*Information Briefings.* Focus group participants felt it was beneficial to provide information prior to giving vaccinations. They recommended that briefings be held anywhere from a couple of days to 1 month before vaccination. Those that wanted more time between information receipt and vaccination wanted to use the time to conduct independent research on the vaccine.

Based on the focus groups and the Q&A sessions, the HRCP also found that, in general, more mature, experienced officers and senior noncommissioned officers seemed to grasp and understand information about the vaccine and disease more readily than younger, less-experienced service members. As a result, it is important that the information be tailored to the audience, with some service members needing only basic facts and others requiring more detailed information. However, all service members should be given an opportunity to obtain more information on the topic.

Participants identified interactive information exchanges as the most valuable way of getting information to people; written information was inadequate when used alone. People found print and web-based sources of information most useful when coupled with interactive sessions, such as commander's calls or town hall meetings. Health care providers, service members, and family members all advocated use of interactive sessions to establish credibility and address people's concerns.

Feedback on the DOD trifold brochure, *What You Need to Know About Smallpox Vaccine*, was mostly positive, although some health care providers said that its usefulness was limited and it was often thrown away without being read (<http://www.smallpox.army.mil/media/pdf/spTrifold.pdf>).<sup>2</sup> One service member called it "propaganda." Most participants, however, felt it was an important tool to have as a resource to be used in conjunction with a briefing or other interactive exchange or if

someone requested information on smallpox or the vaccine. There was mixed feedback on the pictures: some participants felt the pictures got people's attention; others felt the pictures could unnecessarily alarm people. Some participants noted that the brochure showed a picture of what could happen if service members did not take proper care of the vaccination site but did not show the effects of smallpox disease.

During the later focus groups, other DOD brochures, *Somebody in Your Household Just Got Vaccinated Against Smallpox: What Should You Do?* (<http://www.smallpox.army.mil/media/pdf/Familybrochure.pdf>) and *After You Get the Smallpox Vaccine: Protecting Pets and Other Animals* (<http://www.smallpox.army.mil/media/pdf/petsBrochure.pdf>), were well received.<sup>3,4</sup> Participants felt these brochures addressed some of the most important questions about the vaccine.

*Information Sources.* Service members, their families, and health care providers all considered the Centers for Disease Control and Prevention to be a trusted source of information (<http://www.bt.cdc.gov/agent/smallpox/index.asp>). Providers also mentioned the MILVAX Agency website (<http://smallpox.army.mil>), Johns Hopkins University (<http://www.hopkins-biodefense.org/pages/agents/tocsmallpox.html>), the U.S. Department of Health and Human Services (<http://www.hhs.gov/smallpox/index.html>), and the Maryland Department of Health and Mental Hygiene (<http://www.dhmd.state.md.us/bioterrorism>) as good sources of information. Some health care providers noted the importance of directing people to *legitimate* sources of information to counterbalance the misinformation that is also available. Service members also mentioned WebMD® (WebMD Corporation, Elmwood Park, NJ [<http://www.webmd.com>]) an alternative source of credible information.

Some participants stated they do not trust the military or the Federal government as a source of information, and gave Gulf War Illnesses and the anthrax vaccine as the reasons. However, most focus group participants expressed trust and confidence in unit medical personnel (physicians and corpsmen/medics assigned directly to units), indicating that the more familiar the source and the more the source shares similar risks (the fact that these medical personnel have been or will also be vaccinated), the more the source can be trusted. Service members and their families said that their personal health care providers are the most commonly used and trusted sources of information about smallpox and other health issues.

Focus group participants also mentioned that the news media is a common source of information. However, a number of participants were concerned that the media tend to sensationalize information about smallpox and needlessly heighten the level of concern.

## Conclusions

Based on the findings of the focus groups and the questions/concerns raised during the Q&A sessions, the HRCF found that a proactive information campaign on the smallpox vaccine is necessary and is working. The MILVAX risk communication strategies developed before the start of the DOD Smallpox Vaccination Program were confirmed as sound, and the focus groups provided further opportunity to fine-tune information and communication.

The focus groups reinforced the belief that the target audience for information is broader than just service members. Family members insist upon knowing what their loved ones are facing. All health care providers need to be briefed, whether they administer the vaccine or not, because service members and their families look to them for accurate information. In addition, briefings scheduled in advance of administering the smallpox vaccine allow service members and their families time to understand and discuss the information provided. Service members and their families rely on DOD health care information sources and look to external, civilian sources of information to verify DOD information.

A major benefit of this effort is that it provided rapid feedback to the MILVAX Agency, allowing adjustments and new products to meet the needs identified by service members, their families, and health care providers as the focus groups were conducted. Based on comments from participants in the focus groups, the MILVAX Agency made adjustments to the DOD trifold brochure and produced two additional brochures related to family members and pets.

Another positive benefit resulted from simply asking

service members, their families, and health care providers their opinions. People like to know that what they say matters and has an impact. In the later focus groups, participants heard about how comments and questions from earlier participants were responsible for updates to the trifold brochure and the development of the two new brochures.

The focus group effort demonstrated the need for and value of collaboration and sound risk communication planning. Taking the time and effort to plan and obtain feedback on risk-related issues pays off in the end.

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